## (19) World Intellectual Property Organization International Bureau



### . | 1886 EXISTRE IN COLUMN 1881 EXISTENCE OF A 1881 EXISTENCE OF A 1881 EXISTENCE OF A 1881 EXISTENCE OF A 1881

### (43) International Publication Date 23 March 2006 (23.03.2006)

### **PCT**

# (10) International Publication Number WO 2006/030988 A1

(51) International Patent Classification<sup>7</sup>: 12/56, H04J 11/00, H04B 7/02, 7/02

H04L 1/08,

(21) International Application Number:

PCT/JP2005/017568

(22) International Filing Date:

16 September 2005 (16.09.2005)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data: 2004-272489

17 September 2004 (17.09.2004)

(71) Applicant (for all designated States except US): MAT-SUSHITA ELECTRIC INDUSTRIAL CO., LTD. [JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka, 5718501 (JP).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): NAKAHARA, Hideki. TAKAI, Hitoshi. YAMASAKI, Hidetoshi. MIYANAGA, Kenji. TANAKA, Koichiro.
- (74) Agent: OGASAWARA, Shiro; Daisan-Longev' Bldg., 3-11, Enokicho, Suita-shi, Osaka 5640053 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VC, VN, YU, ZA, ZM, ZW.

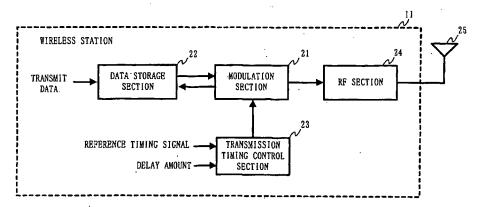
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WIRELESS TRANSMISSION SYSTEM AND WIRELESS TRANSMISSION METHOD AND WIRELESS STATION AND TRANSMITTING STATION FOR USE THEREIN



(57) Abstract: The present invention provides a wireless transmission system in which it is possible to exert a maximum path diversity effect even if the maximum number of effective branches is limited to a small number. A transmission timing control section(23) determines a transmission start timing to be a timing obtained by delaying a reference timing by a predetermined delay amount. A modulation section(21) modulates a signal by a modulation scheme such that an anti-multipath property is exerted when the signal is demodulated on a receiver side, and transmits the modulated signal at the transmission start timing. In a receiving station(12), a demodulation section(33) demodulates the receive signal to obtain receive data. The predetermined delay amount is such that signals are received at the receiving station(12) at a plurality of signal-receiving timings, and the number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches, a difference between the signal-receiving timings is greater than or equal to a predetermined delay resolution and is less than or equal to a predetermined maximum delay.